XI03

Garden City Atari Computer Enthusiasts

1003 Amphion St.
Victoria, B.C.
CANADA V8S 4G2

Editor's Mumblings

It's time for another edition of XI03. Do you notice anything different about this newsletter?? Well, if you don't, then I'll tell you...it was printed using a laser printer! Yes, I went out and bought one, partially because of not being able to print grey-scales on my dot matrix, and secondly, I was tired of waiting for 3 1/2 hours for a 10 page DTP document to print out on my dot matrix. DTP is my hobby, so the laser printer was right up my ally.

I am sorry for the newsletter being out late this time. I have made a drastic carrer move, and it involves alot of training, which subsequently interfeared with my being able to attend meetings, etc. I hope to be at the June meeting to give you all a run down in regards to the newsletter, but it all depends on how the training goes between now and then. Anyways, as usual, I hope you like the newsletter. Once again, I apologize for the newsletter being late this time (Beg, Beg, Grovel, Grovel). CHEERS!!!!

Chris Sherwood
Editor, XI03

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Atari News & Rumors

by: Roland Grant

They've done it again! Atari made arrangements to show its latest products, only to cancel out at the last moment. It is known that Atari was going to demonstrate four new products at the general meeting of the Boston Computer Society on April 22nd. This would not have been the first time that Atari has used the BCS for its new product debut. The BCS, with its twenty-five thousand members, is considered a very important forum. For instance, Apple introduced the Macintosh line at a BCS meeting. Most of the other major computer manufacturers have also used the BCS meetings to launch new products. So one must conclude that Atari has something that it considers to be a major development. Atari explained that it expected to have its new products ready for market shortly after its public announcements, but there has been some delay. It is rumoured that there may be a six month wait before the new products could be distributed to dealers. So Atari asked BCS for a postponement. We can't fault them for that.

Apparently some of the new products have been viewed behind closed doors by dealers at the CeBIT fair. This has given rise to a great cloud of rumours. The following is a partial list. There is a new computer arising from the "Falcon" project. This is not an enlargement of the TT line. It is a new development using the combined features of the ST and TT lines but with some significant differences. The new computer will run initially with a 68030 at 33 mhz. Memory can be expanded up to 14MB using simms. It will have all the screen resolutions of the ST and TT lines except for one. The TT's 1280x960 monochrome resolution will be replaced by a new screen capacity for colour. This new colour mode will allow a 640x480 pixel screen to display 65535 different colours (out of a choice of 256,000) on the screen at one time. It will have the hardware to connect directly to external video sources. It will also

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have a DSP 56001 signal processor similar to the NeXT computer. A small, 2.5 inch hard drive with SCSI connections will be built in. The new computer will be packaged in a handsome black case, and will look more like the original 1040ST than a TT. A multi-tasking TOS will be installed.

Wow! My first thought is that this new Atari computer is aimed at the video industry. It is meant to compete with the high end Macs and Amiga models in the video market. Just as the TT seems to be aimed at the publishing market, and the STBook is aimed at the music industry. There were no rumours on the price. I expect that a new Atari computer, performing well against high end Macs and Amigas, could be a bit expensive for the general user. I suspect that its success may depend more on its technical advantages and its appearance than on price alone. The new computer may be a lot more compact than its rivals, its black case might give the impression of a serious piece of video or midi equipment. And this (for all we know) could be a deciding factor in the industry. At any rate, the rumours suggest that the old ST platform has lots of life ahead of it.

But that's only one product. Other rumours hint that the current ST/TT models are being revised and upgraded. The STE may soon have additional colour capacity. This will be a hardware change that will display 256 colours at once on a low res screen, like standard VGA. It could be an enhancement of low res or a new colour mode. This would put the ST ahead of the Amiga in colour capacity. Of course both the ST and the Amiga can display a lot more colours using software that manipulates screen interrupts. However, the software publishers usually use the available hardware. And with the capacity to emulate the standard VGA colour mode used by games producers, it's possible that we may see more products ported over to the ST. There are now a lot of interesting games on the PC using digitized images that would not look as good on the ST. Since entertainment is the main use for the lower priced ST models, a VGA emulation would seem to be a logical development. There are also rumours about CD ROM developments and interactive video using the ST platforms, but I have no details. I like my 12 inch SM124 monochrome monitor. When this first appeared in 1985, it was one of the best screens available, and very easy on the eyes. Now that the PC world has gone on to 14 inch (diagonal measurement) as a standard monitor size, Atari is following suit. The new SM147 has a 14 inch, paper-white, flat screen. It comes mounted on a swivel base. Unfortunately, the SM147 has no sound capability. Admittedly, I can get along without sound when using word processors and the like, but the warning bell and keyclick can be handy on occasion. Atari is quoting a suggested retail price of $259.95, which is around what they charged for the SM124 in 1985. However, recently I have seen quite good paper-white monitors for the PC selling for almost half that price. I suspect that the SM147 is a high quality product, but is it worth the list price?

Atari is reported to have made a big impression at the National Association of Music Merchants show held in January at Annaheim. Atari had almost no competition. Electronic music people are not usually computer hobbyists. They are just trying to get a job done at the lowest cost and with the most convenience. The portable STBook with its midi interface and long battery life could be a winner in this market. Of course, Atari has yet to get STBook on the dealers' shelves. Maybe they were waiting for market reaction before making a final decision on production. Anyway it seems now that there will be only one model of STBook, and it will come with 4MB installed. On seeing the software and accessories available, many music dealers at the show felt that any model of ST or TT is a winner. Atari received a number of rather large orders. Also, it didn't hurt Atari's reputation when ST user Scott Gershin of Soundelux post-production studio was nominated for an Oscar for his sound work on the "JFK" movie. New electronic applications have made it possible to produce quality sound recordings without expensive sound studios. A computer is at the core of these setups. Increasingly, this is an Atari computer.

While Atari seems to be well established in the professional music market, the Apple Macintosh is the leader in commercial desk top publishing. This was evident from reports of the "Seybold DTP Seminar '92" where most of the computers in evidence were Macs. Many of the vendors at this event offered complete pre-press systems, that is, the computer, software and necessary devices to create plate-ready film. The software is critical and determines the choice of computer. Atari computers were represented by one system offered by Goldleaf Publishing. The

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core of the Goldleaf ComputerBild Publishing System is a highly modified TT030. It has an accelerated graphics display card with 24 bit colour capability, large storage devices and a special hardware screening card providing output to image setting equipment. Goldleaf went to the trouble of modifying the TT so that it could make use of two superb programs. These are Didot Professional and Retouche Professional CD by ComputerBilde of Germany. It was evident to all that this Atari-based system was easily the equal to any of the others using Macs. The fact that the TT needed so much modification to function in the Goldleaf system shows the need for further development, especially in graphics display and storage capacity. But I am not saying that the TT is inferior to the Macintosh. After all, the other pre-press systems on display had to modify the Macs that they were using.

I understand that most currently available computer systems can handle text for quality printing quite satisfactorily. However, when it comes to images showing detail, and in particular, images for colour printing, very good software and very large amounts of memory are required. With respect to RAM, there may never be enough in most microcomputers. However, there is a way around that limitation using "virtual memory". In the days when RAM was very expensive, virtual memory was used on most mainframe computers. It works by making the computer treat a storage device such as a large hard drive as if it was a part of RAM. The software used by the Goldleaf publishing system provides for virtual memory. However, if Atari is very serious about promoting the TT in the publishing industry, it should provide a TOS upgrade (or some software) that can handle a virtual memory of a few hundred megabytes.

It may be possible for an individual to customize a ST, or at least a Mega ST to the capacity of the Goldleaf system. Fast Technology is advertising the TinyTurbo030. This is a 68030 accelerator board running at 40Mhz. It matches the speed of the slower ST circuitry through a 32K cache of fast static RAM. TOS 2.06 is on board. With Fast Technology's virtual memory software you can make your ST act as if it had up to 128 Megabytes of TT fast RAM. The total cost for this upgrade is currently a bit less than $1000. Still high, but a lot cheaper than a TT. Add a large capacity hard drive and a video display adapter, such as Gribnif's Crazy Dots, and you should have much more publishing power than a stock TT at a somewhat lower cost. For starters, maybe it's time for Atari to lower the list price of the TT some more and equip it with a higher capacity hard drive.

Other accelerator boards, running at lower speeds are also available from Fast Technology. After a run of bad luck with his software and bum parts from suppliers, David Small of 'Gadgets by Small' is now filling orders for his accelerator board called the SST. The board makes provision for RAM as well as the fast 68030 CPU. "Gadgets" is a family business. Dad does the designs and software, mom does the manuals and packaging, and the kids are set to work testing the circuits or burning ROM chips. Much of the best hardware and software for Atari computers comes from family businesses. More power to them!

Atari may be launching a new magazine aimed at the MIDI music users. It will be called the Atari Artist. A special issue of Atari Explorer was published for the NAMM show. This contained a major section called the Atari Artist. This February Atari Explorer also had a type-in listing for XL/XE's. Just like the good old days! And on the topic of new publications, the ST Informer magazine has gone from newspaper to magazine size format. It has a new editorial staff. There was a major disagreement between the "management" of ST Informer and the editors. So the editors left and founded Atari Advantage Magazine, a monthly. It remains to be seen whether or not the US market can support another Atari ST magazine. They charge an annual subscription price of $22.00 and an additional $6.00 for postage to Canada.

After Antic Publishing formally ceased to exist, its property rights such, as copyright etc, must have gone somewhere. My understanding of copyright law is very vague, but I recall that in cases like Antic, copyright may revert to the author. Antic marketed and claimed copyright on Word Magic, Spell Magic and Graphic Magic. They are a word processor, spell checker and graphics tool for the Atari 800. Graphic Magic enables the inclusion of 62 sector pictures in Word Magic text. These excellent programs could be used independently, however they were also sold as an

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integrated system for the Atari 130XE. Copyright must have reverted because I understand that the author, Jim Thompson, has released these programs to the public domain. This is a very significant addition to the 8-bit public domain collection. It should stand along side MYDOS, TurboBASIC and BobTerm as one of the gems.

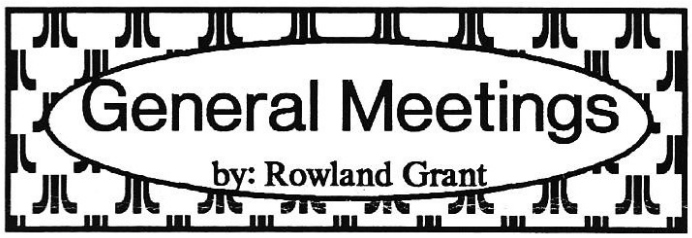
I've noticed that some mail order houses are offering new 8-bit equipment. The whole range of XE computers is available and also the XF551 disk drive. Of course you can also get reconditioned older 8-bit equipment, some of it at very low prices. Computer Software Services has finally released its disk drive interface, called the Floppy Board. This board is an add-on to the famous Black Box interface. The standard Floppy Board ($109 US) allows you to interface your 8-bit equipment with up to four double density 5.25 and 3.5 inch drives. The Deluxe Floppy Board ($149) also interfaces with higher density disk drives. With a Black Box and one of these Floppy Boards, you should be able to run your 8- bit Atari indefinitely.

BELLCOM has published its 1992 8-bit catalogue with all sorts of new additions. Also BELLCOM has been collecting information about 8-bit user groups, and about sources of 8-bit hardware, software and publications. A disk containing the collected information is available from BELLCOM and will be sent out with software orders. Not everyone has easy access to an 8-bit Atari user group. In the past, BELLCOM has helped many isolated users.

The economic slowdown has affected at least one Atari dealer in Vancouver. Jim Satrijo, owner of Infinite Grafix, found that cash flow became so slow that his overhead began to consume it all and more. So he opted out of renewing his lease, and closed his store in Richmond at the end of February. He has moved his remaining stock to his home, and is considering re-opening Infinite Grafix as a mail-order business. Jim ran the Crash BBS out of his home, so I imagine further news about Infinite Grafix will be posted. As of now, my Vancouver informants have heard nothing more.

I have been doing this column since April 1988. Every time I start writing, I'm convinced that I don't have enough material. Of course, by the time I've put in all my opinions and speculations, my submission ends up too fat. However, to mark the occasion I will add some more print calories on an irrelevant note. I attended the March meeting of the local PC club, Big Blue and Cousins. They meet in a large lecture theatre at UVic. In true theatrical manner, Vice President John Meloche, works the crowd (about 200 or so). We had a couple of speakers, software salesmen selling the latest "something" for Widows. To soften them up (the salesmen that is), John called out to the audience "what makes a 40mhz '486 run slower than a 5mhz 8088?" It seemed that everybody roared back "Microsoft Windows"! The word must have got around because Microsoft has released Windows 3.1, and it runs somewhat faster that the original. I saw Windows 3.1 being displayed on a fast '486 at a local store. When nobody was looking, I sat down and worked the mouse. My impression is that the screen redraw is now almost as fast as GEM running at 8mhz on my ST (TOS 1.4). However Windows seemed to take ages reading the hard drive. Where our GEM uses a busy bee image for its cursor when the desktop is working, Windows uses an hour glass. I think that sums it up. So if you are lusting after that fast PC that seems so cheap, remember that far fields only seem greener.

Rowland Grant



The March General Meeting featured a video program on computer graphics. Several years ago we ran another tape covering the same topic. The science of computer animation has advanced considerably since that first tape was made. A good number of members present asked for the pledge package supporting a new Atari Classic magazine. I hope that you all mailed in the cards. The John Picken demonstrated his latest program for XL/XE computers at the April General Meeting. This enables two different (and incompatible) programs to reside together in RAM in "virtual computer" files. John showed us how he can pass from TurboBASIC running under MyDOS to another

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program running under Sparta DOS with one keystroke. Each called system runs where it left off. The XE/XL computers need more than 300K of RAM to do all this. John also mentioned that RAM disks under this system can be sector edited. John will be describing his new "virtual computer" system in XIO3, so I needn't say more. Thanks to Mike Harrison for the use of his video equipment, and as ever, to Ted Skrecky for his ST system and the extra colour monitor for the video. John added his 320XE to my XL system to demonstrate his programs.

We received the March 1992 issue of PSAN. It almost sold out at the April meeting. There is a good mix of news and articles, but PSAN could do with more contributions...hint, hint. John Picken, our correspondent with France, reported that Club Cenacle has discontinued Cenacle News. This was a biannual periodical running to 70 pages or more. It usually came with a couple of disks. The enterprises of Club Cenacle are managed by a very small (talented) circle of enthusiasts. The big publication, along with everything else, just became too much! Club Cenacle will continue sending out its bulletins and other publications. Besides publications, Club Cenacle operates a large library of PD software for XL/XE computers. It is probably the only source in France.

PD software continues to pour in to our libraries. Ted took a spring holiday and spent some of it working on the ST library. How's that for dedication! Ted is up to disk #78, with lots more to go. Much time goes into each disk. We received some more XL/XE games and demos from Ed Hall in Yellowknife. And I have more XL/XE disks that will find their way into the library. The BELLCOM 1992 catalogue for 8-bit software is now available. For ST users, we have the OakSprings software catalogue on disk. If you are interested, a copy should be available from the library. Some of the new stuff is being uploaded to the Pothole BBS. I noticed that Gordon Hooper was complimented in the Watchdog column of our local Penny Saver. I mean, when one of our club members get published in the New Atari User, IN BRITAIN, that's news out here in tweed curtain country!

Recently, a number of 1050 disk drives belonging to Club members, including one of mine, have packed it in. The main problem seems to be frayed drive belts. Most of the drives in question use Tandon mechanisms and are probably at least seven years old. Steve Lemmen keeps a few spare belts on hand, but the ones he had didn't fit. So Steve loaned me his Best Electronics catalogue. I discovered that the 1050 drives may use a Tandon or a World Storage mechanism. The Tandon belt is a bit smaller. Best has almost all the parts for the 1050 drive mechanisms including felt pads and leaf springs. These are two other mechanical parts that often wear out. I sent for replacements and rejuvenated my two drives with the new parts. Replacing the belt requires a bit of thought and dexterity. If it's absolutely beyond you, Steve might be able to help you out.

Garden City ACE is becoming the last resort for Atari users locally. Last month I received a call from a student at UVic who had lost an important essay. Somehow the file for the final draft contained only the first two pages, continuously repeated. I agreed to see what I could do. Promptly, two students appeared at my door. The disk in question contained Word Writer and a series of files in WW format. The lost file was a big term essay and it was due now. It would take too long to rewrite, or even retype. There was no backup! Atari computers have given me little trouble, but I don't trust them that much. Still, the essay had been saved many times as it was developed, and other files had been stored in the meantime. So there was a chance that parts of earlier versions might be scattered throughout the disk. I resorted to the PD program RECOVER from our library. This would enable us to scan the first 80 bytes of each sector. We scanned the disk using RECOVER. I wrote down the numbers of the sectors that the students identified as relevant text. I told the students that the recovery would take some time and bid them adieu. RECOVER will save isolated sectors to a series of disk files, but you need two disks for this process. A RAM disk won't do. I used a hard drive. Word Writer loaded the file, but the screen showed nothing. I tried other word processors, but the ones I have wouldn't accept the format. Later on booting with the WW disk, the hard drive virus protector complained that something just tried to write to the boot sector. Ha! A virus! VKILLER identified it as a key virus. It looked like it messed things up during I/O operations. On cleaning that up, Word Writer worked properly and all the fragmented text was joined into one file. I left the

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cutting and pasting to the student. Apparently a number of university students use Atari ST's so I donated VKILLER to their circle. Later the student called and said that I had found ninety percent of the essay. After a cut and paste session that lasted much of the night, the essay was printed and handed in just in time. GCACE to the rescue!

G.C.A.C.E. 8-bit Library

The 8-Bit SIG meetings at George Rose's place are in abeyance for the summer. However at the last executive meeting, we decided to continue SIG meetings throughout the summer at various other members' homes.

At all SIG meetings, we will attempt to have the 8-Bit disk library present. If this is not possible, enough of the "old regulars" are normally present that you can still obtain the best of the utility programs (though games might be in short supply).

MAY The next SIG meeting will be held on the afternoon of Sunday 24 May at my place (2214 Belmont Ave). The topic will be MYDOS, SpartaDOS and SpartaDOS X, with emphasis on use of subdirectories (what ST owners call "folders"), RAMdisk and, if there's time, batch files. If you paid for extra RAM in your computer and aren't getting your money's worth, plan to attend.

There are a few XL upgrades out there that were not done by Stephen Lemmen and have different RAM mapping. If you own a 256k XL on which your software doesn't seem to work, bring it along (just the keyboard, we can supply all the other stuff). We can probably provide you with the software needed to use all your RAM or else "hack" the stuff you're currently using. This applies to software only - if you've got a hardware problem, talk to Mike Harrison.

JUNE The June SIG will be on Sunday the 21st, at the Presidential Palace of El Numero Uno (253 Regina Ave). Weapons must be checked at the door but strip searches will not be carried out (for this event only - any other time you take your chances).

The topic will be uploads and downloads. One or both of our illustrious Sysops will demonstrate the various correct ways to carry out these tasks. This is your chance to get "hands on" training from the experts.

Boomer is planning to carry out the demonstrations using "null modeming". If you own more than one computer of any make or model, null modeming can be an extremely useful technique. Come out, see how it's done, and get advice on what hardware, if any, you require.

JULY, AUGUST AND BEYOND Future SIG meetings are planned on a monthly basis but times, locations, and subjects are up in the air. We are open to suggestion on all aspects of these.

John Picken

Peeking Around

by: Gordon Hooper

...Welcome to new members BUD MAINDONALD and MALCOM TAYLOR....JOHN PICKEN hosting the 8-bit Special Interest Group while GEORGE ROSE takes the summer off to spend in his motor home. George says he will start again in the fall. John intends to show how a RAMdisk works on May 24 at his home, 2214 Belmont Avenue. DAN CLIFFORD, RENE MAST and John and myself enjoyed George's hospitality at the last 8-bit SIG meeting...CHRIS PRINCE, our Parksville member, got a job for the summer on a boat fishing for sea urchins. If you've ever seen a sea urchin, you'll know why I'm very anxious to see him eat one of those suckers when he gets back...RICK HANSON buying an ST, but he was smart enough to keep his 8-bit so that when he needs some computing chore done quickly and easily, the 8-bit is there...ROWLAND GRANT succumbed to a low price for the Turbocharger and bought it. He will demonstrate the IBM emulator at the May 21st meeting. BOB NEX will also demonstrate his 8-bit Black Box. Bob picked a losing team again in the Stanley Cup playoffs. Trust me, the Canucks won't be sipping champagne from the Cup. They're going to break your heart again, Bob...JOHN TOWLER donating an extra copy of 'Current Notes' magazine he received to the club library...DAVE BACON, where are you?...STEVE LEMMEN still doing repairs and

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offering advice to and about our favourite computers...CHRIS SHERWOOD attending work-related classes on the first and third Thursday's of the month. These coincide with our club meetings, but of course priorities take over and work comes first. I would have picked the computer club meetings. Chris is still putting out all the energy needed to publish this newsletter, however...TED SKRECKY brings his ST and the ST library to each one of our general meetings, so if you need software, bring blank 3.25 disks on the third Thursday of each month. 8-bit owners can phone either George Rose at 652-0572 or Rick Hanson at 384-5515 and make arrangements for a time to make copies of our P.D. software...If you have any salacious comments about fellow members, phone GORD at 386-0857...

ST Library

Ted Skrecky

Yet again, my solar powered Mickey Mouse Moon-Dial says it is time to write another ST Library Report for our club newsletter, XIO3. First, I will start off by listing the magazines donated to GCACE over the past two months. A few weeks back I was in Vancouver, visiting my brother Douglas. Although we both completely failed in our quest to find the fabled, lost, underwater city of Atari, my trip to Vancouver was not a total loss. Doug kindly donated several computer mags to our club, listed as follows: May 1990 issue of Computer Language (oh wow!!), September 1991 issue of Dr. Dobb's Journal, August 1987 issue of Compute!, and the January 1990 issue of STart magazine. I, also, have donated the following: April 1992 issue of Atari Interface (contains ST & XL/XE material) and the October 1991, November 1992 and December 1991 issues of PC Games magazine. All of the above can be borrowed by club members by making an appointment to visit George Rose (652-0572).

20 disks of new ST public domain software have been sent to us by our Vancouver contact, Bob Lussier. Some of this material is very impressive such as the KAOS Alternative Desktop. It is rumoured to be even better than NeoDesk. For members who are interested in word processing, DBWriter is worth checking out. It looks very good but will only work with Monochrome monitors. Also, Bob has given us a couple of new magazine news disks... always good for reading.

A significant amount of work has been done on the ST Library during the past two months. A total of 7 new disks worth of LHarced files have been added. Yup, the GCACE ST library is now at disk #80. I am attempting to achieve a good mix of different types of games, utilities, applications, etc so everybody should find some software in the ST library that they would want. Although I do not have a Monochrome monitor, I have been using a Mono emulator so I can check Mono only programs. This has made it possible for me to add some Mono only software to the library such as DBWriter (Disk #76) and a few games such as Push Box (Disk #77). Also, Midi enthusiasts might want to examine some of the latest disks as I have added a few midi programs. I can't test them as I do not have the necessary equipment but since many ST computers are used for music, I thought we should have some Midi software in the library.

Some major changes have been happening on the PotHole BBS. All the new GCACE software being uploaded to the PotHole is going directly into the GCACE XL/XE and ST sections. Anything that I consider to be even of remotely good quality is being uploaded. Now, GCACE members do get a special deal on this BBS as this is the official club board. Being a member entitles you to a ratio of 25 downloads for every 1 upload. Non-GCACE members only have a 7 to 1 ratio. Also, when you have used your 25 credits and you find you have no PD material to upload, you can ask Boomer (SysOp) for more download credits. Unless you have been committing evil acts such as "war-dialing" the PotHole, Boomer is willing to be generous. Of course, if possible, we would like members to upload any good PD (XL/XE or ST) software that they have.

Although I am the ST librarian, I do like to do work occasionally on the GCACE XL/XE library. A few months ago I completed updating the XL/XE disk software catalog. Although there isn't a large volume of new 8-bit software rolling into the club

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every month, I found that since I last updated the catalog a couple of years ago, a total of 50 XL/XE disks have arrived on our doorstep. Besides adding the 50 new disks to the catalog, I have taken time to dramatically improve the overall usefulness of the software catalog. Before, the catalog consisted mainly of the titles of each disk followed up a disk directory. Many of the directory listings for our theme disks have been scrubbed and replaced with a short description. Work still needs to be done on the 8-bit catalog but it, at least, is a lot more informative than it used to be.

While on the subject of the 8-bit library, I thought I would take a moment and thank the #1 contributor of new XL/XE PD software to GCACE. And his name is.... Ed Hall. He has given us numerous disks of great 8-bit software such as the Atomit Puzzle Game, The Big Demo, and The Amiga Picture Show disk. Not long ago we received yet another shipment from Ed... a total of three disks. All the goodies from Ed have been placed in the XL/XE library and are also available on the PotHole BBS. Anybody wanting new 8-bit programs should not have any difficulty in obtaining the new PD disks.

At the next general meeting (May 21st, 1992), Ted Skrecky (that's me) will be nuking large quantities of commercial ST software out the door at unbelievable low prices... a total of 10 programs (mainly games). And the prices range from $5 to $15. If interested, then show up at the next general meeting. Also, the ST library will be open for business as usual... just bring along some blank disks.

Ted Skrecky

STARTING SOZOBON C

by Rowland Grant

I am aware of three versions of the C programming language available in the public domain for the Atari ST. The one that seems to be the most popular is SOZOBON C. It conforms to the original standards of C and has a number of powerful libraries. Sozobon C was created and is maintained by several professional programmers who make use of it in their work. It is probably as powerful as any commercial C programming system on the market. This is not a review of Sozobon C. I am writing this because several club members have tried to use the SOZOBON compiler from GEM desktop without success. The following is simply an account of my experiences with Sozobon C, or at least those that were successful.

I am using SOZOBON C version 1.31i. This is an improved version by Ian Lapore. With this package, Ian has also provided a program called GEMENV, which sets up environment variables so that the compiler controller (cc.ttp) can find all the files it needs. Unless everything is just right, cc.ttp loses its way, the program stops, an error statement flashes on the screen before GEM takes over. So I carefully set up a disk according to Ian's instructions in the readme file, opened the SOZOBON\BIN folder and clicked on cc.ttp. The tos-takes-parameters box came up and I typed in the file name and location of the test program, HELLO.C.

```
-v a:\SOZOBON\EXAMPLES\HELLO.C
```

I didn't need to use the -v option, but it causes the actions of the compiler controller to be printed to the screen, and this is very useful. A series of file paths and commands appeared on the screen, then the screen was erased as GEM desktop appeared. I opened the EXAMPLES folder and found the new file HELLO.PRG. I clicked on it, and the expected text appeared on the screen (fleetingly). I found that cc.ttp can't find files unless they are in the SOZOBON folder.

The GEM desktop is a rather inconvenient environment for using the SOZOBON C system. The authors recommend using a command line interpreter and listed GULAM shell, another public domain product, as one of their preferences. GULAM is a powerful combination of command line interpreter and text editor. It provides for macros and batch files. The autorun batch file is called GULAM.G, and it is in this file that one must put the environment variables. I didn't have much success until I found a series of articles in ST FORMAT that referred to GULAM and SOZOBON.C. On one ST format disk was a GULAM.G batch file set up to use SOZOBON C. The source code files are to be placed in a folder called WORK. The advantage of this system is that you don't have to open any folders to run the compiler controller. Also anything displayed on the screen remains there for your perusal after the compiler has finished.

With this batch file the prompt comes up on the screen as

```
a:\work›
```

which means that you are in the subdirectory (folder) WORK. At the prompt type:

```
cc -v hello.c  -o hello.prg
```

The program will run and the following will be displayed:

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cc:version 1.42i Copyright (c) 1988 by Sozobon Limited a:\sozobon\bin\hcc.ttp -O a:\hello.s hello.c a:\sozobon\bin\jas.ttp -o a:\hello.o a:\hello.s a:\sozobon\bin\ld.ttp -p -o hello.prg -f a:\ldfile.tmp

This is what the compiler controller does. it calls up the compiler hcc, then the assembler jas, and finally the linker ld. It creates a default link file ldfile.tmp containing the object file in question and the library file dlibs.a. This arrangement will probably handle all code that is not Atari-specific, except where functions require floating point math. In that case start with the following:

cc -v libm.a program.c -o program.c

where of course program.c is replaced by the file name required.

At the next prompt, after compiling hello.c, I typed ls, which is GULAM's command to list a directory (shades of UNIX!). The screen showed:

hello.c hello.prg*

Success again!

SOZOBON.C and GULAM Shell are powerful programs, but they need a lot of careful reading and experimenting to master them. But what the heck, the price is right! I always print out all the documents and put them in looseleaf binders. If you want to program in C, but you don't like command lines, there are a couple of commercial compilers that use a shell with drop-down menus. These are Prospero C and Laser C, each costs between $100 and $200.

I would like to thank Doug Skrecky for finding various versions of SOZOBON C and GULAM for us. SOZOBON C ver 1.31i and GULAM are available from the club library and may be found on the Pothole BBS. If any member wants to try Sozobon C, I can supply a copy of my working system on one disk, and documentation for all files on a second.

"C" Programming

By Chris Prince

When you are using a .TTP, program TOS sees this .TTP extender and opens a dialog box and you type in the parameters for what ever program you are using and press return. If you are using a command shell (CLI, MS-DUNCE/DOS type stuff) you type in the name of the program and the parameters with every thing seperated by a space. The program takes off a does its stuff.

So, let's go write a "C" program that can use these parameters. All "C" programs are built around the function called main(). If you what the main() to receive parameters from TOS replace main() with main(argc, argv) int argc; char *argv;. Argc is the traditional name for argument counter this varible contains the number of parameters in argv. Argv is the traditional name of argument vector it is an array strings each string (0 to argc-1) is a parameter. Argv[0] is always the filename of the program. Couldn't be simpler. Type in the program PRINT.C and compile it. If you are using a command shell type 'print ‹filename›' and watch it print away.

Now on to the important stuff. Let's say you want to write a program to average a bunch of numbers. The first problem is entering each number, you need an array big enough to hold all of these numbers. So if you declare an array of one size or another you will find yourself either tieing up a bunch of unused memory with a small list of numbers or not having enough memory with a large list of numbers. The answer to this problem is not to use an array, instead use a 'linked list'. A linked list is a bunch of DYNAMICALLY ALLOCATED NODES linked together. Ok. STATIC allocation is the usuall declaring of a varible then compiling the program etc.. DYNAMIC allocation is sort of like declaring new varibles while the program is running. First lets make some nodes, a node is a 'struct' like so:

```
struct node
    itemtype item;
    struct node *link;
;
```

where 'itemtype' can be any type such as int, char, etc. and 'link' is a pointer to 'struct node'. Secondly you need a STATICly allocated pointer to 'struct node', it is commonly called 'front' or 'mylist' or something like that.

Now this whole pointer bussiness might have you confused a bit. A pointer is a varible which contains the address of another varible. In "C" if you put an '*' in front of an identifier (varible name) that is a pointer you are talking the thing that the pointer is pointing to, if put a '&' in front of an identifier you are talking about the address of the identifier. Clear as mud?

'malloc' is the function that does the dynamic allocation. 'malloc' allocates a chunk of memory so many bytes big and returns a pointer to a type 'char'. Since we ain't allocating 'char' we're allocating 'struct node' we need to "cast" the 'char'

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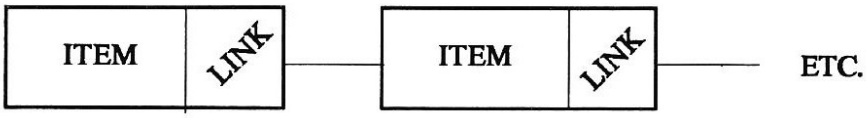
into a 'struct node' by putting '(struct node *)' in front of the 'malloc' statement. And we end up with a statment like:

pointer = (struct node *)malloc(sizeof(struct node));

'pointer' (above) is a pointer to 'struct node' and so is the 'link' field in the struct declared earlier. We can draw a picture to demonstrate how this works.



So each link field points to the next node in the list. When we get to the end of the list set the link field equal to 'NULL'.

I hope you are beginning to understand this because I am getting tired of typing.

You could posibly imagine that writing the functions to manipulate these lists can be tricky at times. So here is a trick to combat the nodal trickyness of the nodes RECURSION!?! A recursive functionis that simply calls a function that does the job of the recursive function, which just by chance happens to be itself. Stop and think about a function that writes the items in a linked list on the screen. The function needs the pointer to the front of the list (front, mylist, whatever...) if the pointer is NULL then there are no items to write otherwise the function will write the first item in the list then it will write the rest of the list. Look at the writebkwd function in the LINK.C program. To write a list backwards you want to write the rest of the list.

I'll leave your minds to ferment till next month. Then I'll confuse you more.

PRINT.C

```
#include<stdio.h>
#include<ctype.h>

main(argc, argv)
int argc; char *argv[];
{
        FILE *fp, *pp;
        char c;

        c = 'a';

        fp = fopen(argv[1], "r");
        pp = fopen("prn:", "w");

        while (!feof(fp)) {
        c = toascii(fgetc(fp));
        fputc(c,pp);
}
        fprintf(pp,"\f");
        fclose(fp);
        fclose(pp);
        exit(0);
}
```

LINK.C

```
#include <stdio.h>

struct node {
        int item;
        struct node *link;
};

typedef struct node * int-node;

void initlist(front) int-node *front;
{
       *front = NULL;
}

void addtofront( front, new ) int-node *front; int new;
{
        int-node i;
        i = (int-node)malloc(sizeof(struct node));
        i->item = new;
        i->link = *front;
        *front = i;
}

void writefrwd( front ) int-node front;
{
       while(front !=NULL) {
              printf("%d\n",front->item);
               front = front->link;
       }
}

void writebkwd( front ) int-node front;
{
        if (front != NULL) {
                writebkwd( front->link );
                printf("%d\n",front->item);
}
}

void deletefromfront( front ) int-node *front;
{
        int-node i,j;

        i = *front;
        j = i->link;
        free((char *)i);
        *front = j;
}

main()
{

        int-node mylist;

        initlist( &mylist );

        addtofront( &mylist, 3 );
        addtofront( &mylist, 2 );
        addtofront( &mylist, 1 );

        writefrwd( mylist );
        writebkwd( mylist );

        deletefromfront( &mylist );
        deletefromfront( &mylist );

        writefrwd( mylist );
        exit(0);
```